

Systems of Equations Word Problems

Date _____ Period _____

- 1) The school that Lisa goes to is selling tickets to the annual talent show. On the first day of ticket sales the school sold 4 senior citizen tickets and 5 student tickets for a total of \$102. The school took in \$126 on the second day by selling 7 senior citizen tickets and 5 student tickets. What is the price each of one senior citizen ticket and one student ticket?

Let x = price of senior citizen ticketLet y = price of student ticket

$$x = 20 \quad y = 14$$

$$4x + 5y = 102$$

$$7x + 5y = 126$$

- 2) Flying with the wind a plane went 183 km/h. Flying into the same wind the plane only went 141 km/h. Find the speed of the plane in still air and the speed of the wind.

Let a = speed in still air w = speed of wind

speed plane + speed wind = speed

$$a + w = 183$$

$$a - w = 141$$

$$\frac{2a}{2} = \frac{324}{2}$$

$$a = 162 \frac{\text{km}}{\text{hr}}$$

$$w = 21 \frac{\text{km}}{\text{hr}}$$

- 3) Castel and Gabriella are selling pies for a school fundraiser. Customers can buy apple pies and lemon meringue pies. Castel sold 6 apple pies and 4 lemon meringue pies for a total of \$80. Gabriella sold 6 apple pies and 5 lemon meringue pies for a total of \$94. What is the cost each of one apple pie and one lemon meringue pie?

apple pie \$4

lemon meringue \$14

- 4) The school that Imani goes to is selling tickets to the annual dance competition. On the first day of ticket sales the school sold 3 senior citizen tickets and 3 child tickets for a total of \$69. The school took in \$91 on the second day by selling 5 senior citizen tickets and 3 child tickets. What is the price each of one senior citizen ticket and one child ticket?

senior citizen ticket \$11

child ticket \$12

- 5) Ming and Carlos are selling cookie dough for a school fundraiser. Customers can buy packages of chocolate chip cookie dough and packages of gingerbread cookie dough. Ming sold 8 packages of chocolate chip cookie dough and 12 packages of gingerbread cookie dough for a total of \$364. Carlos sold 1 package of chocolate chip cookie dough and 4 packages of gingerbread cookie dough for a total of \$93. Find the cost each of one package of chocolate chip cookie dough and one package of gingerbread cookie dough.

pkg choc chip dough \$17 pkg gingerbread dough \$19

- 6) Kayla's school is selling tickets to the annual dance competition. On the first day of ticket sales the school sold 3 senior citizen tickets and 5 child tickets for a total of \$70. The school took in \$216 on the second day by selling 12 senior citizen tickets and 12 child tickets. Find the price of a senior citizen ticket and the price of a child ticket.

senior citizen ticket \$10, child ticket \$8

- 7) A plane traveled 580 miles to Ankara and back. The trip there was with the wind. It took 5 hours. The trip back was into the wind. The trip back took 10 hours. Find the speed of the plane in still air and the speed of the wind. *- each way!*

Speed plane 87 mph, speed of wind 29 mph

- 8) Amanda and Ndiba are selling flower bulbs for a school fundraiser. Customers can buy packages of tulip bulbs and bags of daffodil bulbs. Amanda sold 6 packages of tulip bulbs and 12 bags of daffodil bulbs for a total of \$198. Ndiba sold 7 packages of tulip bulbs and 6 bags of daffodil bulbs for a total of \$127. Find the cost each of one package of tulips bulbs and one bag of daffodil bulbs.

pkg of tulip bulbs \$7, bag of daffodil bulbs \$13

- 9) The local amusement park is a popular field trip destination. This year the senior class at High School A and the senior class at High School B both planned trips there. The senior class at High School A rented and filled 16 vans and 8 buses with 752 students. High School B rented and filled 5 vans and 5 buses with 380 students. Each van and each bus carried the same number of students. How many students can a van carry? How many students can a bus carry?

Students in a van 18 Students in a bus 58

- 10) The senior classes at High School A and High School B planned separate trips to New York City. The senior class at High School A rented and filled 16 vans and 5 buses with 417 students. High School B rented and filled 10 vans and 8 buses with 480 students. Every van had the same number of students in it as did the buses. How many students can a van carry? How many students can a bus carry?

Students in Van 12 Students in Bus 45

- 11) The senior classes at High School A and High School B planned separate trips to the water park. The senior class at High School A rented and filled 14 vans and 16 buses with 1086 students. High School B rented and filled 10 vans and 13 buses with 870 students. Every van had the same number of students in it as did the buses. Find the number of students in each van and in each bus.

Students in Van 9 Students in bus 60

- 12) Yellowstone National Park is a popular field trip destination. This year the senior class at High School A and the senior class at High School B both planned trips there. The senior class at High School A rented and filled 7 vans and 10 buses with 332 students. High School B rented and filled 4 vans and 15 buses with 459 students. Each van and each bus carried the same number of students. Find the number of students in each van and in each bus.

Students in Van 6 Students in bus 29